

Microfinance movement: Scope and limitations

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Master thesis for the Master of Philosophy in Economics

University of Oslo

November 2010

Acknowledgement

First of all, I would like to express my sincerest gratitude to my supervisor Tapas Kundu for his patient guidance and insightful comments. He has been supportive and encouraging throughout the process. Without his support, this thesis would not have been accomplished on time.

I also would like to thank all lecturers and other personnel in the Department of Economics for teaching me and helping me. I want to thank all my friends here in Oslo who help me have an enjoyable and memorable life in Norway.

Last but not least, I want to thank my parents and my sister for their unconditional love.

All remaining mistakes are mine.

Weihua Ding

November 10, 2010

Abstract

Microfinance has been recognized as an effective tool in helping poor people and developing rural economy since its beginning in the late 1970s. Empirical research provides convincing evidence for its significant contribution to social development in various economies. However, we see huge variation at their performance level among different economies. Considering their immense impact on economic development and poverty reduction, it is important to understand sustainability of the microfinance institutions (MFIs).

It is believed that the entry of MFIs would adversely impact informal sector lenders. It is puzzling that even with enormous growth of MFIs over the last few decades; we still see coexistence of these two forms of lending. I analyze how informational asymmetry may explain this coexistence. I develop a simple theoretical model to explore the role of informational constraint on the optimal contract offered by MFIs. Among other findings, we see that MFIs objective to screen good projects from the bad projects may put additional constraint in removing informal sector lending or in increasing borrowers' payoff. In addition, in my thesis, I provide a review of empirical evidences on microfinance's poverty reduction effect. Finally, I briefly discuss the issues related to sustainability of microfinance.

Key words: microfinance institutions, poverty reduction, informal money lending, sustainable development, subsidy

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List of Abbreviations

MFIs- Microfinance Institutions

NGOs - Nongovernmental organizations

CIDA- Canadian International Development Agency

IRDP- India's Integrated Rural Development Program

CGAP- Consultation Group to Assist the Poorest

MIX- Microfinance Information Exchange

BRAC- Bangladesh Rural Advancement Committee

SDI- Subsidy Dependence Index

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1 Introduction

Microfinance is the provision of microcredit and other financial services to the poor and low-income people. It emerges as one of the most innovative intervention in the financial sector and brings huge influence in economic development. Over the last few decades, it has developed vigorously, becoming a powerful component of economic development, poverty alleviation and economic regeneration strategies around the world.

Microfinance's growth and development has been extremely rapid since its appearance in the late 1970s. During the 1970s and 1980s, the microenterprise movement led to the emergence of nongovernmental organizations (NGOs) that provided small loans for the poor. By the end of 1997, microfinance institutions (MFIs) had 13.5 million clients. As of December 31, 2007, 3552 microcredit institutions reported reaching 155 million clients, 106 million of whom were among the poorest when they took their first loan¹. The United Nations declared 2005 the International Year of Microfinance. Besides, microfinance attracted worldwide attention and was further promoted after the Nobel Peace Prize for Dr. Muhammad Yunus in 2006 (Pischke, 2009).

The following table shows results of the verification process as reported by the Microcredit Summit Campaign 2006

¹ Daley-Harris 2009 Microcredit Summit Campaign

Table 1.1

| Year | Number of Institutions Verified | Number of Poorest Clients Verified | Percent Verified of Total Poorest Clients Reported (%) | Total Number of Poorest Clients Reported |
|------|---------------------------------|------------------------------------|--|--|
| 2000 | 78 | 9,274,385 | 67 | 13,779,872 |
| 2001 | 138 | 12,752,645 | 66 | 19,327,451 |
| 2002 | 211 | 21,771,448 | 81 | 26,878,332 |
| 2003 | 234 | 35,837,356 | 86 | 41,594,778 |
| 2004 | 286 | 47,458,191 | 87 | 54,785,433 |
| 2005 | 330 | 58,450,926 | 88 | 66,614,871 |
| 2006 | 420 | 64,062,221 | 78 | 81,949,036 |

Source: Daley-Harris (2006)², Table 1.

What factors account for the emergence and growth of microfinance? It was designed to combat the market failure problem experienced in most of the underdeveloped and developing parts of the economy. For several reasons, the poor has little access to credit. Due to lack of information about poor borrowers' ability to repay and their inability to provide collateral, banks and other profit-oriented financial institutions typically cannot provide credit to the poor. Thus, it has a direct adverse effect on poverty reduction. Besides, lack of credit hampers growth of business and creation of jobs, thus contributing to underdevelopment of the poverty-struck areas. In absence of formal credit sector, many poor people in rural areas borrow money from informal moneylenders. On many occasions, informal money lending turned out to be more

² <http://www.microcreditsummit.org/pubs/reports/socr/2006/SOCR06.pdf>

exploitative and devastating to the poor's economic situation. Thus, a primary objective of MFIs was to provide financial services for poor people and reduce exploitation by informal lender. It promises to bring a series of exciting possibilities for extending markets and developing small scale economy in a sustainable way.

Microfinance has also been recognized as an effective tool in alleviating poverty (Daley-Harris 2002). The poorest and poverty reduction have become the object of unprecedented attention at international summits in the 1990's. Canada, through the Canadian International Development Agency (CIDA), has committed to the targets set by both the OECD International Development Goals and, most recently, the Millennium Goals which focus on poverty reduction for those living on less than a dollar a day. It is clear from the evidence that there are strong potential synergies between microfinance and the provision of basic social services for clients (Morduch & Haley, 2001). The benefits derived from microfinance, basic education, and primary health are interconnected, and programs have found that the impact of each can increase when they are delivered together. This recognition has caused the government to carry out microfinance as an important agenda in development.

Morduch (2000) has also emphasized the need to develop the institutional capacity in a cost effective way, in order to achieve sustainability. However, it has been debated that emphasizing financial sustainability can have an adverse effect of excluding the poorer section of the economy because of the perception that the poor are at a greater credit risk and that the unit cost of small loans tend to exceed the unit cost of large loans. Thus, as microfinance movement progresses over the years, it has been continuously evaluated and modified accordingly to achieve the three important goals – a) extending market and freeing borrowers from the clutches of informal moneylenders, b) reduce poverty through social development and c) building the

credit sector in a sustainable way. Several microfinance programs have been designed to achieve these goals. But the performances of these programs are mixed. They have both positive and negative impacts.

Although microfinance gets considerable success in bringing basic financial services to rural areas and to the poor sections, it does not necessarily reduce the volume of informal money lending. Informal lenders seem to be thriving even in regions where MFIs have built microcredit programs. Jain & Mansuri (2003) gave considerable evidence that MFI clients not only borrow money extensively in the informal market but also use informal loans to repay MFI debt.

What can explain such coexistence of MFIs with informal money lenders? I develop a simple model to explore how informational asymmetries can constraint MFIs to raise its borrowers' payoff from borrowing MFI loans. As a result, some borrowers are always well off borrowing from informal money lenders, provided that the lender has better information about the project than MFIs do. Additionally, MFIs are also constrained with the fact the optimal contract they offer should also be able to screen good projects from the bad projects. The objective to screen good projects gives an incentive to raise the interest rate, and thereby reduces borrowers' incentive to borrow from MFIs. My model of optimal MFI contract under asymmetric information shows that the installment structure of the loan repayment schedule may allow the informal credit market to survive. My model also shows that informational constraint that MFIs have, reduces their ability to reduce poverty. I provide a brief literature review of the mixed evidence on MFIs' performance on poverty reduction. Many MFIs have been able to lend money to the poor in developing countries, while the poorest of the poor, generally, have not been reached.

Many microfinance programs are financially supported by governments and international organizations. When these financial resources terminate, it will be difficult for MFIs to maintain the operation of the microfinance programs. As a result of this, microfinance programs face resource constraints and are not self-sufficient (Meyer 2002). MFIs' ability to expand their service to the poor and the poorest of poor will be restrained. Therefore, microfinance institutions should find possible solutions to survive and not to depend so much on donors and governments. Thus, it is practically meaningful to explore and study the sustainability of MFIs. The thesis discusses the important issues related to financial sustainability and provides a review of the theoretical arguments from the existing literature.

The thesis is organized as follows. In section 2, I provide the background and goals of microfinance movements. Section 3 develops the model based on informational asymmetry that can explain coexistence of informal lender and MFIs. Section 4 overviews the poverty alleviating effect of microfinance. In section 5, I describe the issues related to sustainability. Section 6 concludes.

2 Microfinance movements

2.1 Background

The World Bank defines microfinance as a development tool through which government or non-governmental organizations and financial institutions provide a variety of financial services to help poor and low-income people. These financial services include microcredit, deposits, and micro-insurance and so on.

Poor people need a diverse range of financial services to run their business, build assets, for smooth consumption and to manage risks. People living in poverty often meet their need for money through informal credit market. Credit is available from informal lenders, but usually at a very high cost for borrowers. To be worse, traditional banks do not necessarily consider poor people as their clients.

The major concern for commercial banks is the high risk associated with small-scale lending to the poor. Due to the existence of adverse selection problem, banks cannot easily determine which customers are likely to be more risky than others. Banks would like to charge more interest rates to riskier borrowers in order to compensate for the added probability of default. However, the banks do not know who the riskier one is and raise interest rate for everyone which drives safer borrowers out of the credit market. Besides, the moral hazard problem also arises when borrowers try to abscond with the bank's money. If the bank has cheap ways to gather and evaluate information about their clients, these problems could be solved. But banks cannot afford the high transactions costs for gathering and evaluating information. Another potential solution would be available if borrowers had assets to offer as collateral. If

that were so, banks would lend without risk. Since the poor borrowers cannot provide collateral, poor people often are deprived of credit in market.

Hulme & Mosley (1996) has pointed that “The further one proceeds down the income spectrum, the harder it becomes to finance investment through borrowing from private banks, and the enterprises of the poor – both in rural areas and in the shanty towns on the edge of the cities – generally have no access to them at all.” They also emphasized two important problems that prevent the poor from having access to formal financial services. Firstly, it is the ‘screening problem’. Banks may be discouraged from providing loans to the poor because they do not know them personally. It is easy to see why the banks consider it too risky to allow them to borrow money. Secondly, there is the ‘enforcement problem’. Banks would not shield themselves from these risks, since these borrowers are generally too poor to offer collateral.

The government has made significant efforts to combat the poverty. Policymakers have positively tried their best to extend financial markets in rural areas, but often with disappointing results. What is the government’s role in microfinance? The government built development banks and gave them too much subsidies in order to support the rural economy. However, heavy subsidies were deployed to compensate the banks for entering into markets where they fear huge losses due to high transactions costs and risks (Morduch, 2005).

India’s Integrated Rural Development Program (IRDP) is an example of inefficient subsidized credit. This program has its “social targets”. In principle, the program provided 30 percent of loans to socially excluded groups and 30 percent toward women. Achieving social goals became as important as achieving efficiency. Between 1979 and 1989, IRDP got subsidies of almost \$6 billion. But these resources did not

generate good institutional performance. According to Pulley (1989), IRDP repayment rate fell below 60 percent. In 2000, the IRDP repayment rate decreased to 31 percent (Meyer 2002). Due to institutional performance remarkably weakened, the IRDP failed to be a reliable and meaningful source of service for the poor.

The Consultation Group to Assist the Poorest (CGAP) points out “there’s a positive role for governments to play in adopting appropriate “light-touch” consumer protection policies and market conduct regulation, such as disclosure requirements, protections against over- indebtedness, and simple, accessible recourse mechanisms, coupled with client financial education.” In addition, when microfinance providers offer voluntary deposit services, there is also a role for government to play in regulation and supervision. The reason for this is not only protecting depositors, but also to keep the stability of the financial system.

Microfinance is a new way of delivering loans to poor borrowers. According to CGAP, a microfinance institution is an organization that provides comprehensive financial services to the poor. Different types of financial services providers have emerged: non-government organizations; cooperatives; community-based development institutions such as self-help groups and credit unions; members (group) system of collective organizations; rural savings and loan organizations; informal financial intermediaries; and semi-formal and formal financial institutions, including commercial banks offering new possibilities. These microfinance institutions differ in many aspects, including the range of offered products, ownership structures and sources and supply of funds.

The target clients of these institutions are mainly the poor or low-income people (microenterprises included), especially the women of the poor farmers. The programs

of these MFIs are suitable for people in the rural areas. Microfinance provides the funds needed for production for poor households and solve the problem of funds for poverty alleviation, rather than consumer loans. Credit lines of microfinance are small and short-term. Microfinance is generally meets the seasonal production requirement for poor households (especially in rural poor households), and they are mostly short term loans (one year、 3-6 months, etc.). The amount of loans which is mainly used to purchase the necessary means of production, small machinery equipment, is smaller. The most progress of microfinance is that there are no collateral or flexible and diverse forms of collateral, and carry out the installment repayment system. Because of the lack of the valuable assets that can be disposed after loan defaults, MFIs use the mode of installment repayment commonly. Thus, the entire loan and interest are decomposed into a week or once every two weeks to repay. One can continuously loan after repayment. So that is conducive to the recovery of loans, to some extent to reduce the risk of the loans, but they also help recycling funds, reducing the backlog of funds and improving interest income.

2.2 Goals

Previous researches have focused on different goals of microfinance and how they are achieved. In my thesis, I will pay attention to three main goals: (1) solving the market failure problem, (2) reducing poverty, and (3) bringing out development in a sustainable way.

It is easy to see why one of microfinance's goals is to solve the market failure problem-reaching the poor and undeveloped sectors, and reducing exploitation by

informal moneylenders. The financial systems are not highly advanced in the poor regions of the world and the poor have little access to credit through formal credit sector. One of the reasons behind absence of formal credit sector is the information problem. In particular, banks have little information about the type of projects the poor people would invest in. Additionally, the poor people can hardly provide collateral for security. As loans from the formal banking sectors are often refused, the potential borrowers approach informal money lenders who provide loan at an extremely high interest rate, leading to further economic problem. The emergence of microfinance can possibly break this circle. Microfinance programs emphasize small, frequent, regular payments and create incentives for poor borrowers to make these payments. It has the promise to reduce the informal lending by providing financial services to the poor.

With such a large proportion of the world's population living in poverty, the use of microfinance should also be a key to reduce poverty and encourage economic growth. It has many roles in reducing poverty. First, it targets the poorer section of the market, which is otherwise deprived of formal credit. Thereby it expands the market. Second, it converts savings of poor households to credit to others. Third, it works as a much needed insurance for the poor people, who otherwise have little support in smoothing consumption. Finally, it explores potential synergies between microcredit and other basic development services such as health care, education etc. Many MFIs have developed a range of services to address the requirement of the poor, such as the Income Generation for Vulnerable Group Development (IGVGD) program of BRAC, Bangladesh. CGAP's Poverty Assessment tool can be used to compare clients and non-clients of MFIs in the same community.

Although the microfinance service provides huge support to help the poor people and change their life greatly, many present microfinance institutions cannot achieve financial sustainability. The main reason is that most institutions are still small and vulnerable to constraints on their funding resources. They are unable to continuously offer credit and wide-ranging service for the poor and thus have limited function on regional poverty alleviation. Therefore, another goal of microfinance is to bring out development in a sustainable way. Robinson (2000) has pointed “The microfinance revolution is currently emerging in many countries around the world. This term refers to the large-scale, profitable provision of microfinance services-small savings and loans to economically active poor people by sustainable financial institutions.” This means MFIs should bring out development in a sustainable way, and then MFIs can offer large-scale provision of financial services to low-income people.

3 An Analytical Study

In this section I develop a simple model of money lending. I first show how a borrower's reservation utility is related to informal money lender's capacity to offer loans. I assume that the informal money lender has a pure profit making objective, but she has her own cost of raising capital to offer loan. Additionally, I assume that the informal money lender has perfect information about the return from the project the borrower invests in. I characterize the minimum threshold on a borrower's reservation payoff that will make the informal money lender unable to offer loans.

Next, I consider a formal MFI that can offer loan to the borrower but it has limited information about the return from the borrower's project. I assume that MFI, though a profit making entity, designs the lending contract with an interest to provide the borrower with a certain level of reservation payoff. In comparison to the informal money lender, the MFI has low cost of raising capital but has incomplete information about the project. I am interested to find when the reservation payoff that the borrower gets from the MFI loan exceeds the minimum threshold such that informal money lender can longer offer loan to such a borrower.

Finally, I extend this model to more than one period. In the first period, MFI designs the lending contract to acquire information about the type of the project that the borrower invests in. When a high interest rate is charged, a successful repayment reveals information about the quality of project. I study the implication of screening on the MFIs ability to raise borrowers' reservation payoff, and in turn, to what extent informal money lending can be removed.

3.1 The model

There are three players - a borrower, an MFI, and an informal money lender, labeled as B, M, and L respectively. B invests money in a project. The project has two possible outcomes: 'high return' and 'low return'. If the project is a high return one, the borrower can get r_g with the probability μ and r_m with the probability $(1-\mu)$. On the other hand, if the project is a low return one, the borrower can get r_m with the probability μ and 0 with the probability $(1-\mu)$. We assume that $r_g > r_m > 0$.

3.1.1 Informal money lending

I first consider the case when the informal money lender L lends money to the borrower B. L wants to maximize her profit. The borrower accepts the loan only if it gives him a utility level w . L is perfectly informed of the project's type. L offers a contract (k, s) to B, where k is the amount of the loan that is provided by informal lender, and s is the interest rate charged by informal lender. For simplicity, I assume that B cannot default on the principal amount k , but can default on the interest rate s . The informal lender has a cost of raising fund k , which is given by $C_L = C_L(k) = c_L k$, where c_L is a fixed positive number.

Firstly, I consider the high return project. Therefore, L knows that the expected return from the project is given by

$$r_h = \mu r_g + (1-\mu) r_m$$

I denote U_h as the utility of the borrower which is given by

$$U_h = k (1+r_h) - k (1+s)$$

I denote V_h as the lenders expected payoff which is given by

$$V_h = k(1+s) - k[1+C_L(k)]$$

L's optimal contract solves the following optimization problem:

$$\max_{(k,s)} k(1+s) - k[1+C_L(k)]$$

Subject to the B's participation constraint:

$$k(1+r_h) - k(1+s) \geq w$$

The borrower's participation constraint can be simplified as $k(r_h - s) \geq w$. It is easy to show that this constraint is always binding otherwise L can simply increase s without affecting the participation constraint at all. Therefore,

$$\Rightarrow s = \frac{kr_h - w}{k}$$

Therefore, the objective function can be described that

$$k(1+r_h) - k[1+C_L(k)] - w$$

The first order condition of informal lender's expected utility

$$\frac{\partial V_h}{\partial k} = r_h - 2c_L k = 0$$

$$\text{We can solve } k^* = \frac{r_h}{2c_L}$$

$$s^* = r_h - \frac{2c_L w}{r_h}$$

We finally consider the constraint that L has to earn non-negative profit; otherwise L

will not offer the contract at all. Therefore, we need $k(r_h - c_L k) \geq w$

$$\frac{r_h}{2c_L}(r_h - c_L \frac{r_h}{2c_L}) - w \geq 0 \quad \Rightarrow$$

$$\frac{r_h^2}{4c_L} - w \geq 0 \quad \Rightarrow \quad c_L \leq r_h^2 / 4w$$

The above condition characterizes when we would see informal money lending, for a given cost of capital c_L and borrower's reservation utility w . It is easy to see that if the cost is high or the reservation utility is high, the volume of informal money lending reduces. The above condition can be rewritten as $w \leq r_h^2 / 4c_L$. We therefore define the reservation utility threshold for high return project by $r_h^2 / 4c_L$. If a borrower with high return project has a reservation utility above this threshold, the informal money lender can no longer offer loans to such a borrower.

The above analysis is done for the high return project. A similar analysis can also be done for the low return project, which has an expected return given by $r_l = \mu r_m$. The reservation utility threshold for low return project is given by $r_l^2 / 4c_L$. The following proposition summarizes our main findings.

Proposition 1: Assume that the informal money lender has perfect information about the return from the project. Consider the high return project with expected return $r_h = \mu r_g + (1 - \mu)r_m$. The informal money lender provides loans if and only if $c_L \leq r_h^2 / 4w$. For high return project, the optimal contract is $(\frac{r_h}{2c_L}, r_h - \frac{2c_L w}{r_h})$.

Similarly, for low return projects with expected return $r_l = \mu r_m$, the informal money lender provides loans if and only if $c_L \leq r_l^2 / 4w$. The informal money lender's optimal contract for low return project is $(\frac{r_l}{2c_L}, r_l - \frac{2c_L w}{r_l})$.

3.1.2 Money lending by MFIs with incomplete information

In this section I consider the optimal lending contract offered by the MFI, M. I assume that M does not have perfect information about the project's return. Instead, it has the prior belief that the borrower has a high return project with probability p , and the borrower has a low return project with probability $(1-p)$. We treat MFI as a profit-making entity, but it wishes to keep the reservation payoff of the borrower at a certain level w . We are interested to find out whether the reservation payoff w in this case can exceed the reservation utility threshold that we obtained in case of informal money lending.

As M does not have perfect information, it offers a menu of contract $\{(k_h^*, s_h^*), (k_l^*, s_l^*)\}$ expecting that a borrower with high return project will select (k_h^*, s_h^*) and a borrower with low return will select (k_l^*, s_l^*) . We also assume that M has a cost of raising fund k , which is given by $C_M = C_M(k) = c_M k$, where c_M is a fixed positive number. We consider the case $c_M < c_L$, so that M has lower cost of raising fund than an informal money lender does.

M's optimal menu of contract solves the following optimization problem:

$$\max_{\{(k_h^*, s_h^*), (k_l^*, s_l^*)\}} p[k_h(s_h - c_M k_h)] + (1-p)[k_l(s_l - c_M k_l)]$$

Subject to:

MFI's break-even constraint:

$$p[k_h(s_h - c_M k_h)] + (1-p)[k_l(s_l - c_M k_l)] \geq 0$$

Borrower's participation constraints:

$$k_h (r_h - s_h) \geq w \quad (1)$$

$$k_l (r_l - s_l) \geq w \quad (2)$$

Borrower's incentive-compatibility constraints:

$$k_h (r_h - s_h) \geq k_l (r_h - s_l) \quad (3)$$

$$k_l (r_l - s_l) \geq k_h (r_l - s_h) \quad (4)$$

First note that the participation constraint of the borrower with low return project and the incentive-compatibility constraint of the borrower with high return project will be binding. Indeed, when the borrower with low return project can get loan from MFI, so the borrower with high return project can always mimic the low type. Therefore, we can get (2) and (3) which are binding.

$$k_l (r_l - s_l) - w = 0 \Rightarrow s_l = r_l - \frac{w}{k_l} \quad (5)$$

$$k_h (r_h - s_h) - k_l (r_h - s_l) = 0 \Rightarrow s_h = r_h - \frac{k_l r_h}{k_h} + \frac{k_l r_l}{k_h} - \frac{w}{k_h} \quad (6)$$

Using the two binding constraints to eliminate s_h and s_l from the maximizing problem, we can change objective function into

$$\max_{\{(k_h^*, s_h^*), (k_l^*, s_l^*)\}} p[(k_h r_h - k_l r_h + k_l r_l - w - k_h c_M(k_h))] + (1-p)[k_l r_l - w - k_l c_M(k_l)]$$

Following the first order condition, we can get

$$k_h^* = \frac{r_h}{2c_M} \quad (7)$$

$$k_l^* = \frac{r_l - p r_h}{2(1-p)c_M} \quad (8)$$

From (5) and (6), we can get

$$s_l^* = \frac{r_l^2 - r_l p r_h - 2w + 2p w c_M}{r_l - p r_h}$$

$$s_h^* = r_h - \frac{(r_l - p r_h)(r_h - r_l)}{(1-p)r_h} - \frac{w 2 c_M}{r_h}$$

Next, we look at MFI's expected payoff from offering this menu of contracts.

$$\begin{aligned} \pi_M &= p(k_h r_h - k_l r_h + k_l r_l - k_h^2 c_M) + (1-p)(k_l r_l - k_l^2 c_M) - w \\ &= p k_h (r_h - k_h c_M) + k_l (r_l - p r_h - k_l c_M) - w \\ &= \frac{p r_h^2}{4 c_M} + \frac{(r_l - p r_h)^2}{4(1-p)c_M} - w \end{aligned}$$

After simplifying the above expression, we can

Proposition 2: The MFI offers the menu of contract if and only if $w \leq \frac{p r_h^2}{4 c_M} +$

$\frac{(r_l - p r_h)^2}{4(1-p)c_M}$. The optimal menu of contract is given by $\{(k_h^*, s_h^*), (k_l^*, s_l^*)\}$ where

$$\begin{aligned} k_h^* &= \frac{r_h}{2 c_M}, \quad s_h^* = r_h - \frac{(r_l - p r_h)(r_h - r_l)}{(1-p)r_h} - \frac{w 2 c_M}{r_h}, \quad \text{and} \quad k_l^* = \frac{r_l - p r_h}{2(1-p)c_M}, \\ s_l^* &= \frac{r_l^2 - r_l p r_h - 2w + 2p w c_M}{r_l - p r_h}. \end{aligned}$$

The above proposition has many implications. First we see that if $p \geq \frac{r_l}{r_h}$, then k_l^* is negative, implying that for large enough values of p , the MFI will abstain from providing any loan to low return projects.

Second we ask the question what would be the maximum reservation payoff that MFI can sustain? In particular, we are interested to see whether or not MFI can sustain a

reservation payoff as high as the reservation utility threshold that would remove informal money lenders from the market.

We know that for the low return project, the borrower gets her reservation payoff which is exactly w . And for the high return project, the borrower gets a premium over the reservation payoff, and is given by $k_l(r_h - s_l) = k_l(r_l - s_l) + k_l(r_h - r_l) = w + k_l(r_h - r_l) = w + (r_h - r_l) \frac{r_l - pr_h}{2(1-p)c_M}$.

From Proposition 2, we know that the maximum value of w that can be sustained is

$\frac{pr_h^2}{4c_M} + \frac{(r_l - pr_h)^2}{4(1-p)c_M}$. Comparing this expression with the reservation utility threshold for

low return project that we obtained in case of informal money lending, we conclude

that if $r_l^2/c_L \leq \frac{pr_h^2}{4c_M} + \frac{(r_l - pr_h)^2}{4(1-p)c_M}$, MFI has the potential to remove informal money

lending for low return projects. Similarly, if $r_h^2/c_L \leq \frac{pr_h^2}{4c_M} + \frac{(r_l - pr_h)^2}{4(1-p)c_M} + (r_h -$

$r_l) \frac{r_l - pr_h}{2(1-p)c_M}$, MFI has the potential to remove informal money lending for high return

projects. As it turns out both possibility may cease to exist for intermediate values of

p even if $c_L > c_M$. Thus informational problem can constraint MFI's ability to

remove informal money lending.

3.2 Learning through contract

In the previous section, we consider MFI's information about the project exogenous.

In particular, we solve the case for any general value of p . In reality, MFI can learn

about the project type through repeated interaction with the borrower. In this section,

we consider the possibility that MFI has actually interact with the borrower more than

one times, and therefore, can screen out high return projects from the low return projects through optimal repayment schedule. At the beginning, both M and B do not have information about the project. M specifies his contract (k_1, s_1) . The project has two possible outcomes: ‘high return’ and ‘low return’. As before, for the high return project, the borrower can get r_g with the probability μ and r_m with the probability $(1-\mu)$. For the low return project, the borrower can get r_m with the probability μ and 0 with the probability $(1-\mu)$. Both M and B have no information about the project’s type. The prior belief is that it is a high return project with probability p , and it is a low return project with probability $(1-p)$. We are interested to find out what kind of posterior belief M will have based on repayment.

I denote w is the reservation utility of borrower. I denote the borrower’s expected return $r_1 = p\mu r_g + p(1-\mu)r_m + (1-p)\mu r_m$. And MFI is assumed to had a cost function $C_M = c_M(k) = c_M k$.

MFI chooses a contract so as to maximize profit, subject to borrower’s participation constraint.

$$\max_{\{(k_1, s_1)\}} k_1(1 + s_1) - k_1[1 + c_M(k_1)]$$

Subject to:

Borrower’s participation constraint:

$$k_1 r_1 - k_1 s_1 \geq w$$

This constraint is always strictly satisfied. From $k_1 r_1 - k_1 s_1 = w$, we get

$$k_1 s_1 = k_1 r_1 - w$$

Insert $k_1 s_1 = k_1 r_1 - w$ into the objective function, the objective function can be simplified as

$$\max_{\{(k_1, s_1)\}} k_1 r_1 - w - c_M k_1^2$$

Take the first order condition, we can get

$$k_1 = \frac{r_1}{2c_M}$$

Hence, MFI's return can be implied as

$$k_1 r_1 - w - c_M k_1^2 = k_1 (r_1 - c_M k_1) - w = k_1 (r_1 - \frac{r_1}{2}) - w \Rightarrow$$

$$k_1 \frac{r_1}{2} - w = \frac{r_1^2}{4c_M} - w$$

If $\frac{r_1^2}{4c_M} \geq w$, MFI provides loan to borrower. Or in other words, it can raise borrower's

reservation utility w up to $\frac{r_1^2}{4c_M}$. In addition, if MFI has poverty alleviation motivation,

then it is constrained by the condition $\frac{r_1^2}{4c_M} \geq w$.

From $k_1 s_1 = k_1 r_1 - w$, we can get $s_1 = \frac{k_1 r_1 - w}{k_1}$

$$\Rightarrow s_1 = r_1 - \frac{w}{k_1}$$

We can easily find s_1 less than r_1 . Since $r_1 = p\mu r_g + (p + \mu - 2p\mu)r_m$, it is clearly,

to find $s_1 \leq r_1 < r_g$, and r_1 even can be less than r_m .

We are now in a position to study what type of information can be revealed through repayment.

Firstly, if $s_1 \leq r_m$, then the MFI gets two types of information about the borrower's return. That is, borrower get return either 0 or s_1 .

In this situation, given the borrower's return is s_1 , the posterior probability of MFI that the project is high return is p^* , where

$$p^* = p(h/s_1) = \frac{p(h)p(s_1|h)}{p(h)p(s_1|h) + p(l)p(s_1|l)} = \frac{P}{P + (1-P)\mu}$$

Proposition 3: If $s_1 \leq r_m$, MFI considers the high-return project with probability p^* .

And then at the following period, MFI would like to provide the contract (k_h^*, s_h^*) to the borrower. Otherwise, if borrower's return is 0, the MFI believes that the project is low return. Hence, MFI will provide the contract (k_l^*, s_l^*) to the borrower.

Secondly, if $r_g > s_1 > r_m$, the MFI knows perfectly that it is a high return project. However, if MFI observes payment up to r_m , it believes that the project is high return with probability p^{**} , where

$$p^{**} = p(h/r_m) = \frac{p(h)p(r_m|h)}{p(h)p(r_m|h) + p(l)p(r_m|l)} = \frac{P(1-\mu)}{P(1-\mu) + (1-P)\mu} = \frac{P}{P + \frac{(1-P)\mu}{(1-\mu)}}$$

Intuitively, we can get $p^{**} < p^*$. That is to say, the probability for the MFI considers that the project is high return on the condition that the repayment up to r_m less than the probability for the MFI believes that the project is high return with the condition of $s_1 \leq r_m$.

Proposition 4: If $r_g > s_1 > r_m$, MFI believes the project with high return perfectly.

And MFI considers the high project with probability p^{**} under the condition of the payment up to r_m . In terms of different payment, the MFI would provide different optimal contact to borrower.

In the current period, although MFI has partial information of project, the MFI can estimate and provide the optimal contract by observing the borrower's repayment. As for informal money lender, when the borrower's utility level from MFI bigger than $\frac{r_h^2}{4c_L}$ for the high return project, the informal lender will away from the business. For the low return project, the informal lender will out of business when the borrower's utility level from MFI bigger than $\frac{r_l^2}{4c_L}$.

3.3 Role of regularly scheduled repayment

Jain & Mausuri (2003) provides another explanation why regularly scheduled repayments by MFIs can allow informal money lenders to survive. They pointed out "The potential for moral hazard leads MFIs to use innovative mechanisms, such as regularly scheduled repayments, which indirectly co-opt the better-informed informal lenders, and this installment repayment structure allows informal lenders to survive". The installment repayment plan requires that borrowers must pay back their loan at fixed period. Since the borrower know that repayment must begin almost immediately after loan disbursement, and typically much before the returns are realized, they must have enough money to finance the installment. Therefore, the borrowers might borrow from informal lenders. In addition, the rigid repayment schedule considerably restricts the range of the borrower's project, and then reduces the attraction of loan. Sinha and Matin (1998) suggested that the use of small informal loans to meet the weekly installment of the MFI loan is more common among the poorest MFI borrowers.

In fact, the presence of the informal money lending can mitigate the informational problems in an installment repayment plan that MFI provides. The reason is that the installment plan allows the MFI to make use of the superior monitoring capability of the informal money lender. The informal money lender with perfect information of borrowers can use his monitoring capacity to monitor the borrowers. The installment repayment is a good way of mitigating the information problems faced by the MFI. Jain & Mausuri (2003) also showed that the opening up of a formal microfinance institution in a village may lead to an increase in borrowing from the informal money lenders. And as a result, the informal money lender may increase their interest rate. In addition, they established that the installment plan does better than cofinancing which requires the borrower to raise part of the loan elsewhere.

Microfinance practitioners argue that the repayment schedule is critical to prevent loan default. It is believed that repayment installment schedule play a role in reducing default risk and making lending to the poor viable. However, this practice dramatically increases MFI transactions costs, thereby limiting the set of loan sizes and client types. In addition, the use of regular scheduled repayment allows the informal money lenders to survive. Regular scheduled repayment is a good explanation for coexistence of the MFI and informal money lenders.

4 Poverty Reductions

Poverty can be defined as an income level below a socially acceptable minimum (Montgomery, 2005). To understand poverty, a simple distinction can be noticed. There are ‘chronic poor’ and ‘transitory poor’³. The chronic poor always stay in poverty, without welfare support. Those poor people lack assets and opportunities. Whereas the transitory poor, those are suffer fluctuations in income that bring them close to or below the poverty line. In other words, those people temporarily fall into poverty due to adverse shocks.

In the world, poverty remains a serious problem because the high economic growth is mainly driven by few rich and developed countries. According to the estimated data by the World Bank in 2008, there was the estimated number of 1,345 billion poor people in developing countries who live on US\$1.25 a day at 2005 international prices⁴. Extreme poverty remains an alarming problem in the developing regions around the world. There are still a lot of people suffered ‘chronic poor’ or ‘transitory poor’. To help them and to combat poverty is a matter of growing concern by government. Many governments have responded positively to this concern by implementing all kinds of possible policies. The World Bank (2000) explained that the condition of poverty is characterized by lack of access by poor households or individuals to the necessary assets for a higher standard of income or welfare, whether assets contain access to education, access to land, assess to infrastructure, access to networks of obligations or access to credit. ⁵(Montgomery, 2005)

³ Source: Heather Montgomery and John Weiss(2005) “ Great Expectations: Microfinance and Poverty Reduction in Asia and Latin America” p5

⁴ <http://data.worldbank.org/indicator/SI.POV.DDAY>

⁵<http://unpan1.un.org/intradoc/groups/public/documents/apcity/unpan035366.pdf>

Policymakers and economists around the world always emphasize the link between improving access to financial markets and reducing poverty, because lack of access to finance is often considered as a key reason why poor people remain poor. Few recent ideas have generated as much hope for alleviating poverty in low-income countries as the idea of microfinance. The original objective of microfinance is to help the low-income people and improve the position of the poor. It is easy to understand that microfinance is used as a mechanism for poverty reduction. The poor are always refused by conventional financial banks, because they cannot afford collateral. Due to the lack of access to credit from conventional financial institutions, the poor relies on loans from informal moneylenders at high interest rates. In this sense, poverty has reproduced poverty for generations.

Microfinance institutions attempt to help the poor through innovative measures such as group lending and regular saving schemes and so on. Microfinance increases the options and self-confidence of poor people by helping them to access credit. If access to credit can be improved, the poor can finance productive activities that will help income growth. Microfinance is related to the chronic poor and to the transitory poor in different ways. As for access to credit, there is a simple distinction between the needs of the chronic and transitory poor. The chronic poor often access credit for the purpose of creating income, whereas the transitory poor want to realize smoothing consumption through access to credit. The policies which help households to smooth income can dramatically reduce transitory poverty. But only large and sustained growth in household incomes will reduce the long-term poverty.

There is general evidence that microfinance has a positive impact on the poverty reduction. Remenyi and Benjamin (2000) gave the conclusion that household income of families with access to credit is significantly higher than that of comparable

households without access to credit based on case studies from Asia and the Pacific. Robinson (2001) emphasized in her book: “Among the economically active poor of the developing world, there is strong demand for small-scale commercial financial services-for both credit and savings. Where available, these and other financial services help low income people improved household and enterprise management, increase productivity, smoothing income flows and consumption cost, enlarge and diversify their micro business and increase their incomes.”

Khandker (2005) confirmed that microfinance programs have an important effect on reducing poverty among the participants, particularly for female participants and positive spillovers on non-program participants in the villages. Mosley and Arun (2003) demonstrated that a variety of state sponsored institutions provided financial services, which resulted in impressive achievements in expanding access to credit particularly among the rural poor. Katsushi, Thankom & S.K. Annim(2010) used national household data from India and developed treatment effect model to estimate the poverty-reducing effects of MFIs loans for productive purposes. They found that “loans for productive purposes were more important for poverty reduction in rural than in urban areas, however in urban areas, simple access to MFIs has larger average poverty-reducing effects than access to loans from MFIs for productive purpose.”

According to the survey from Microfinance Information Exchange (MIX) in 2009, there are more than 1400 MFIs, representing 86 million borrowers and almost 100 million savers from throughout the developing world⁶. Nevertheless, most parts of the developing world still remain characterized by the huge demand for micro financial

⁶ Source: MIX Annual Report FY 2009.
http://www.themix.org/sites/default/files/Annual%20Report%202009_0.pdf

services. Obviously, microfinance is weak to reach the core poor people who live significantly below the poverty line and lack complementary inputs.

The reasons are as follows: Firstly, due to the high cost, most microfinance institutions charge higher and higher interest rates. Such high rates are unaffordable to the core poor. Once the core poor cannot accept high interest rates, they will either give up the service or accept it but then get into financial difficulties. Secondly, the very poor may be excluded by other members of the group in group lending. The reason is that the very poor are considered bad credit risk. They would jeopardize the position of the group as a whole. Thirdly, when professional staffs operate the loan, they may exclude the very poor from borrowing because of the fear of defaulting. Amin et al. (2003) pointed that microfinance programs are more successful at reaching poor, but less successful at reaching vulnerable.

Wright (2000) noted “there is increasing acceptance that traditional microfinance programs are not reaching the ‘poorest of the poor’-indeed they are rarely reaching the bottom 10-15% of the population.” He pointed out that a MFI’s ability to attract the poorest depends on whether the financial service it offers is appropriate for the needs of the poorest of the poor. Coleman (2006) has shown that microfinance programs are not reaching the poor as much as they reach relatively wealthy people in Thailand. And the impact of village banks is larger on richer committee members rather than on rank-and-file members. The concept and practice of microfinance have changed over the last decade. Hulme and Arun (2009) indicated that microfinance sector is increasingly adopting a financial system approach. This approach supports the argument that MFIs should aim for sustainable financial services to low income people, which may risk undermining the potential of institutional innovation for poverty reduction and social empowerment (Katsushi et al., 2010). Most MFIs

probably do not consider their institutional mission to be serving the poorest of the poor. From the report of MIX, minority MFIs identified “specifically targeting very poor clients” as their institutional mission.

How can the microfinance reach to the core poor? To answer this question, many aspects should be considered. Firstly, for the government part, government should encourage more MFIs to extend their loans and financial services to the poorest of the poor. Government should also make some policies to improve basic education, basic health care and infrastructure construction in poor region, thereby MFIs can easily reach to these poor regions. Secondly, for the MFIs part, MFIs should design special programs for the core poor. The degree to which the programs meet the core poor people’s needs lie in the characteristics of the programs for them. The well known institution is the Bangladesh Rural Advancement Committee (BRAC)⁷ in Bangladesh. The programs specially aim to provide training, health provision and more social development for the core poor. It combines credit with training, food subsidies, and other support. The core poor are encouraged to realize their potential through economic and social programs.

The efficacy of microfinance as a poverty intervention tool may be related to the sustainable development by itself. The MFI not only targets the poor, but also continues to serve them. For the purpose of being successful, the MFIs must be self-sustaining. As long as MFIs keep themselves sustainable, they can offer sustainable service to the poor. The fundamental objective of sustainable microfinance is to be able to continue to serve poor populations. Large-scale sustainable microfinance helps to create an enabling environment for the poverty reduction. Sustainable microfinance

⁷ BRAC started out in Bangladesh in 1972. It is a development organization dedicated to alleviating poverty by empowering the poor to bring about change in their own lives.

expands the service scope, scale and depth, through the realization of financial sustainability and improves efficiency of alleviating poverty.

5 Sustainable Microfinance

5.1 Overview of Sustainability

Microfinance has been an integral part of the financial system, and the successful experience of microfinance is also being learned by many countries. By constant practice and development of microfinance, more and more people pay their attention on the ability of the sustainable development of MFIs. These sustainable MFIs can service a wide range of the poor people because they can ensure their development by providing long-term financial services. In the international microfinance experience, sustainability gradually becomes an important standard to evaluate the success of a micro-financial institution.

Though the present microfinance service in practice gives strong support to help the poor and improve their life to a certain extent, the present MFIs are unable to achieve financial sustainability since most institutions are still small and vulnerable to constraints on their funding resources, which makes them unable to continuously provide credit and comprehensive service for the poor and thus have limited function on regional poverty alleviation.

We can understand the concept of sustainable development in microfinance from two aspects. The first is organizational sustainability. This means that the MFI has to focus on management, organizational structure and hiring of motivated staff. (Johnson & Rogaly, 1997). The second is financial sustainability. The microfinance institutions' revenue generated by their own credit services can cover their transaction costs and capital costs to ensure that the profit is higher than the expenditure. To achieve this

level, the institutions will not need to be provided with any subsidies, and then their own investments will grantee profit.

Financial sustainability is very important to the survival and development of microfinance. Microfinance as a financial service available to the poor is reflected in a credit relationship. Credit contains lending, supervision of loan use and repayment of the loan. Financial sustainability of microfinance generally experience four development stages: In the first stage, the operating cost is mainly paid by donors and “soft loans”. In the second stage, the value of funding sources close to the market price, loan interest income can compensate capital cost and a part of operation cost. In the third stage, subsidies greatly reduced, and the ability of operational self-sufficiency continuously enhanced. In the fourth stage, microfinance institutions absorb deposits at commercial interest rates; the interest income can sufficiently cover the operating cost, the losses of loans and inflation.

5.2 Subsidy and Sustainability

The role of subsidy in MFIs cannot be under-estimated. The truth is that numerous of the MFIs continue to use subsidies from a variety of sources—some from donors, some from governments, and some from charities and concerned individuals. Financial self-sufficiency is referred to the revenue that covers nonfinancial and financial expenses calculated on a commercial basis. Sometimes also refer to as “profit without subsidy” (Christen and others, 1995). Sustainability requires MFIs to have a positive return on equity (net of any subsidy received) while covering all transaction costs (loan losses, financial costs, administrative costs, etc), and

consequently to function without subsidies.(Ahmad Nawaz, 2010). What are the debates about subsidy? A lot of studies have focused on the impact of subsidy, but there are some competing views. Here are some conclusions as follows:

---Subsidy can impact credit demand and supply. There are two conflicting effects. One is that demand for loans by current borrowers may fall when interest rates rise, which is a standard result from demand theory. The second effect is that as programs loosen themselves from subsidies, they can increase the supply of loans to the underserved, delivering the opposite result.

---Subsidy also impacts average returns to borrowers. Raising the interest rates leads to screening out poor projects and increasing average returns. In contrast, raising the interest rates will exacerbate moral hazard and adverse selection, and result in worsen net returns.

---Subsidy impacts nonsubsidized lenders, who may change their interest rates. The subsidized lenders squeeze out other lenders, so that removing subsidies should both expand overall credit supply and allow those lenders to raise their rates. Otherwise, the subsidized lenders helpfully segment the credit market; and when subsidies fall, other lenders may be forced to lower their rates given a more diverse pool of potential clients.

---Subsidy impacts poverty reduction. Advocates think MFIs without subsidy can get sustainable development. As long as MFIs keep sustainability, they can effectively play a role in poverty reduction. On the contrary, some people insist on emphasizing financial sustainability above other concerns can result in the exclusion of the poorest, most vulnerable people, and those living in isolated areas from financial services.

Some insists that subsidization tend to put greater social power on consumption by the poor. They assume that there are highly sensitive credit demand to interest rates, low impacts of interest rates on returns, but not extremely high returns to investments by poor households, and small or beneficial spillovers onto other lenders. On the other hand, those who are against subsidization tend to support a relatively flat distribution of social weights. They think that there are low sensitivity of credit demand to interest rates, positive impacts of interest rate on returns, very low returns to investments by poor households, and negative externalities of subsidized credit programs on other lenders. Those who are skeptical about subsidization consider that the role of the subsidies still persists which hinders the MFIs to achieve self-sustainability. (Morduch, 2005)

Some experts persist in an opinion of ‘win-win’ proposition: microfinance reduces poverty and in the process of that becomes subsidy free or sustainable. Microfinance institutions will be able to grow without the constraints imposed by donor budgets. Morduch (2000) pointed that there is no ‘win-win’ situation in which an MFI can get the best of both sides of this debate. Ahmad Nawaz (2010) did the “with and without subsidy” analysis of conventional financial ratios and confirmed the fact that MFIs financial performance declines substantially without subsidies.

By understanding the role of subsidies in microfinance, one might want to quantify whether the subsidies are used well or not and to know how large the subsidies are. Any subsidy to the institution means that fewer costs have to be charged to customers. For example, the Grameen Bank, despite of reporting profits, it is in fact subsidized on a continuing basis (Morduch, 1999). Grameen’s annual reports indicated that it has earned profits every year and the sum of profits were up to \$1.5 million between 1985 and 1996. But during this period, Grameen also got subsidies from all kinds of

sources. According to the report by Grameen, their direct subsidies totaled \$16.4 million between 1985 and 1996. It is clear that Grameen Bank took in more revenue than it spent. By subtracting the \$16.4 million in grants from the \$1.5 million reported profits, we can see that in this period Grameen clearly did not earn profits as calculated traditionally. In addition, there are other forms of subsidy from “soft loans” from donors.

Sustainability means the extent to which an institution, in addition to being viable, mobilize its own financial resources internally (equity, savings deposit, and retained profits) instead of depending on government subsidies or donor funds.(Seibel, 1999). Different from traditional finance institutions, microfinance institutions not only combat for financial sustainability but also reduce poverty. This social nature of MFIs is mainly financed by subsidies from donors. The social welfare concept associated with MFIs along with the shift towards commercialization warrants that their performance on the basis of traditional financial ratios without unearthing their degree of subsidy dependence provides only a partial and often meaningless or misleading picture of the social cost of maintaining the MFIs (Yaron, 2004).

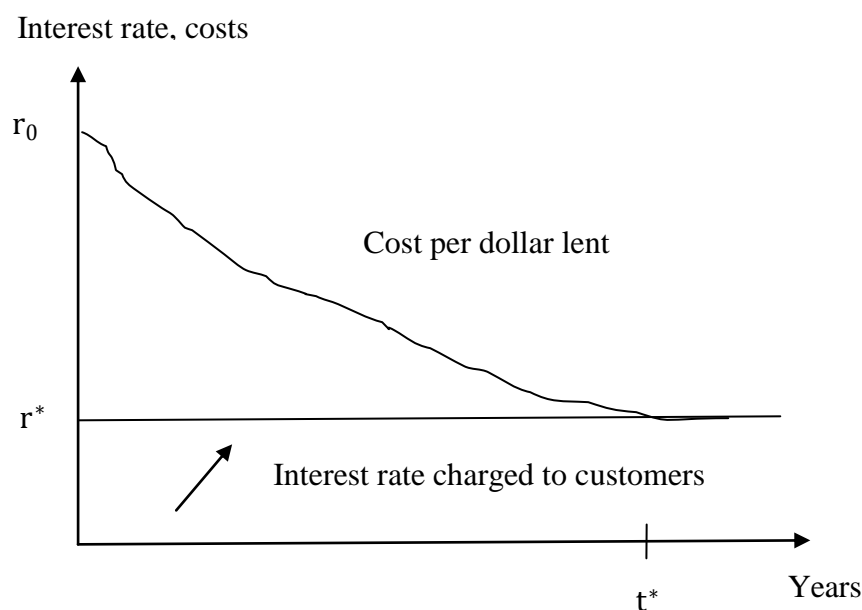
The Microbanking Bulletin (2009) showed that 557 out of 1084 microfinance institutions surveyed were financially sustainable, a rate just over 50 percent.⁸ From the data, we can draw that subsidy is very important for MFIs. However, if MFIs would like to achieve the sustainable development, they should find a new way to free from the subsidies. Morduch (2005) highlights that some donors argue for a strategy which is “subsidize start-up costs, not ongoing operations”. We can consider a long-term situation where the institution can be financially self-sufficient. The institution charges an interest rate as 30 percent per year to customers. But, in the first ten years,

⁸ Source: The MicroBanking Bulletin, NO. 19, December 2009.

the 30 percent interest rate cannot cover all costs. In fact, the lender should charge an interest rate as 45 percent. Then, the strategy here would be to charge the customer 30 percent from the first day of operation and to take a subsidy of fifteen cents per dollar lent for the first ten years.

The following figure shows subsidies for start-up costs.

Figure 5.1⁹



This figure describes initial costs start at r_0 but fall steadily until time t^* , at which time costs have reached the long-term level r^* . A subsidy that covers all costs greater than r^* that are incurred before t^* allows the program to charge borrowers interest rates of r^* from the very start of operations. After time t^* , the program can continue to charge customers r^* and exactly cover the ongoing costs of lending without subsidy. The initial subsidies mean that the customers do not have to help shoulder start-up costs. (Morduch, 2005)

⁹ Source: Beatriz Amendariz & Jonathan Morduch (2005) "The economics of microfinance" p246

Majority of MFIs rely on subsidies to achieve both their social and financial mission. In traditional framework, cost-benefit analyses are used to determine the allocation of subsidies. In the new world of microfinance, to understand the role of subsidies in the sustainability of microfinance institutions, Yaron's Subsidy Dependence Index (SDI)¹⁰ has been calculated which measures the degree to which an MFI relies on subsidies for its continued operations. The SDI is designed to measure the self-sustainability level of the MFI with a single number. It is the ratio of subsidy received by a MFI to the revenue from loans to the target group. An SDI above zero means that the MFI still needs subsidy to operate—i.e., it has not achieved financial sustainability.

Once MFIs lack the subsidies from government, in order to compensate the gap of subsidies, they must pass along all costs to customers. For example, they could set the high interest rate for loans. Consequently, any subsidy to the institution means that fewer costs have to be transferred to clients. And then, customers would increase gains through lower prices.

Subsidy is very important for microfinance, but if MFIs want to attain sustainable development, they should realize financial self-sufficiently. In practice, subsidies in modern microfinance can be well-designed. Some microfinance institutions have found ways to promise serving very poor people and to achieve full financial self-sufficiency. ASA¹¹ of Bangladesh is a good example. It not only achieves financial missions but also its social missions. "ASA Cost-effective and Sustainable Microfinance Model" should be adopted by the other MFIs around the world.

¹⁰ Primary resources on SDI used for this note are the following:

Yaron, Jacob(1992a),Assessing development Finance Institutions: A Public Interest Analysis, World Bank. Discussion Paper 174 .Washington, DC

¹¹ ASA became self-sustainable within a short span of time and the organization declared itself a "donor free MFI" in 2001.

6 Conclusion

By the extensive spread of microfinance, there is a growing concern about the sustainable development of microfinance institutions. Empirical researches provide convincing evidences for this issue. This thesis has given theoretical arguments based on information asymmetry that may constraint MFIs to target poor section. We construct a quality three-sided model consisting of the borrower, the MFI, and the informal money lender. The result of the model demonstrate how MFI reduces informal money lending and how a MFI can design the optimal contract for attracting more clients. To realize this, the MFI can improve its profit, and then it can achieve sustainable development.

It is believed that the entry of MFIs would adversely impact informal sector lenders. It is puzzling that even with enormous growth of MFIs over the last few decades; we still see coexistence of these two forms of lending. The simple theoretical model explores the role of informational constraint on the optimal contract offered by MFIs. Among other findings, we see that MFIs objective to screen good projects from the bad projects may put additional constraint in removing informal sector lending or in increasing borrowers' payoff. So it follows that the MFIs can ensure their profits by keeping away risk. The MFI could provide financial service without subsidy if it keeps its profit. Finally, the MFI can develop a sustainable way. Sustainable microfinance expands the service scope, scale and depth, through the realization of financial sustainability and improves efficiency of alleviating poverty.

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